

ARRANGEMENT

BETWEEN

THE UNITED STATES NUCLEAR REGULATORY COMMISSION
(U.S.N.R.C.)

AND

THE NATIONAL NUCLEAR REGULATOR OF SOUTH AFRICA
(N.N.R.)

FOR THE EXCHANGE OF TECHNICAL INFORMATION

AND COOPERATION IN NUCLEAR SAFETY MATTERS

September 28, 2005

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The United States Nuclear Regulatory Commission (hereinafter called the U.S.N.R.C.) and the National Nuclear Regulator of South Africa (hereinafter called the N.N.R.); the two together hereinafter referred to as the Parties;

Having a mutual interest in a continuing exchange of information pertaining to regulatory matters and of standards required or recommended by their organizations for the regulation of safety and environmental impact of nuclear facilities;

Having similarly cooperated under the terms of a five-year "Arrangement for the Exchange of Technical Information and Cooperation in Nuclear Safety Matters," signed on September 27, 1994 between the U.S.N.R.C. and the N.N.R.'s predecessor agency, the South African Council for Nuclear Safety, and having renewed this Arrangement through the agreement signed on March 30, 2000;

Having indicated their mutual desire to continue the established cooperation for another five years;

Have agreed as follows:

I. SCOPE OF THE ARRANGEMENT

A. Technical Information Exchange

To the extent that the U.S.N.R.C. and the N.N.R. are permitted to do so under the laws, regulations, and policy directives of their respective countries, the parties will exchange the following types of technical information relating to the regulation of safety, waste management, and environmental impact of designated nuclear facilities and to nuclear safety research programs:

1. Topical reports concerning safety, waste management, and environmental effects written by or for one of the parties as a basis for, or in support of, regulatory decisions and policies.
2. Documents relating to significant licensing actions and safety and environmental decisions affecting nuclear facilities.
3. Detailed documents describing the U.S.N.R.C. process for licensing and regulating certain U.S. facilities designated by the N.N.R. as similar to certain facilities being built or planned in South Africa and equivalent documents on such South African facilities.
4. Information in the field of reactor safety research, either in the possession of one of the parties or available to it, including light water reactor safety information from the technical areas described in Addenda "A" and "B," attached hereto and made a part hereof. Exchanges in the field of reactor safety research may require a separate agreement, as determined to be necessary by the research organizations of one or both of the parties. Each party will transmit immediately to the other information concerning research results that requires early attention in the interest of public safety, along with an indication of significant implications.

5. Reports on operating experience, such as reports on nuclear incidents, accidents and shutdowns, and compilations of historical reliability data on components and systems.
6. Regulatory procedures for the safety, waste management, and environmental impact evaluation of nuclear facilities.
7. Early advice of important events, such as serious operating incidents and government-directed reactor shutdowns, that are of immediate interest to the parties.
8. Copies of regulatory standards required to be used, or proposed for use, by the parties.

B. Cooperation in Confirmatory Nuclear Safety Research

The terms of cooperation for joint programs and projects of confirmatory nuclear safety research and development, or those programs and projects under which activities are divided between the two parties, including the use of test facilities and/or computer programs owned by either party, will be considered on a case-by-case basis and may be the subject of a separate agreement, if determined to be necessary by the research organizations of one or both of the parties. When not the subject of a separate agreement, the terms of cooperation may be established by an exchange of letters between the research organizations of the parties, and will be subject to the terms and conditions of the present Arrangement. Technical areas specified by such exchanges of letters may be modified subsequently by mutual consent. Temporary assignments of personnel by one party in the other party's agency will also be considered on a case-by-case basis and will, in general, require a separate letter of agreement.

II. ADMINISTRATION

- A. The exchange of information under this Arrangement will be accomplished through letters, reports, and other documents, and by visits and meetings arranged in advance on a case-by-case basis. A meeting will be held annually, or at such other times as mutually agreed, to review the exchange of information and cooperation under this Arrangement, to recommend revisions to the Arrangement, and to discuss topics coming within the scope of the exchange. The time, place, and agenda for such meetings will be agreed upon in advance. Visits which take place under this Arrangement, including their schedules, will have the prior approval of the administrators referred to in subsection B following.

- B. An administrator will be designated by each party to coordinate its participation in the overall exchange. The administrators will be the recipients of all documents transmitted under the exchange, including copies of all letters, unless otherwise agreed. Within the terms of the exchange, the administrators will be responsible for developing the scope of the exchange, including agreement on the designation of the nuclear facilities subject to the exchange, and on specific documents and standards to be exchanged. One or more technical coordinators may be appointed as direct contacts for specific disciplinary areas. These technical coordinators will assure that both administrators receive copies of all transmittals. These detailed arrangements are intended to assure, among other things, that a reasonably balanced exchange providing access to equivalent available information from both sides is achieved and maintained.

- C. The administrators will determine the number of copies to be provided of the documents exchanged. Each document will be accompanied by an abstract in English, 250 words or less, describing its scope and content.
- D. The application or use of any information exchanged or transferred between the parties under this Arrangement will be the responsibility of the receiving party, and the transmitting party does not warrant the suitability of such information for any particular use or application.
- E. Recognizing that some information of the type covered in this Arrangement is not available within the agencies which are parties to this Arrangement, but it is available from other agencies of the governments of the parties, each party will assist the other to the maximum extent possible by organizing visits and directing inquiries concerning such information to appropriate agencies of the government concerned. The foregoing will not constitute a commitment of other agencies to furnish such information or to receive such visitors.
- F. Nothing contained in this Arrangement will require either party to take any action, which would be inconsistent with its country's existing laws, regulations, and policy directives. Should any conflict arise between the terms of this Arrangement and those laws, regulations, and policy directives, the parties will consult before any action is taken. No nuclear information related to proliferation-sensitive technologies will be exchanged under this Arrangement.

- G. Unless otherwise agreed, all costs resulting from cooperation pursuant to this Arrangement will be the responsibility of the party that incurs them. The ability of the parties to carry out their obligations is subject to the appropriation of funds by the appropriate governmental authority and to laws and regulations applicable to the parties.

III. EXCHANGE AND USE OF INFORMATION

A. General

The parties support the widest possible dissemination of information provided or exchanged under this Arrangement, subject both to the need to protect proprietary or other confidential or privileged information as may be exchanged hereunder, and to the provisions of the Intellectual Property Addendum, which is an integral part of this Arrangement.

B. Definitions

1. The term "information" means nuclear energy-related regulatory, safety, waste management, scientific, or technical data, including information on results or methods of research and assessment, and any other knowledge intended to be provided or exchanged under this Arrangement.
2. The term "proprietary information" means information made available under this Arrangement which contains trade secrets or other privileged or confidential commercial information (such that the person having the information may derive an economic benefit from it or may have a competitive advantage over those who do not have it), and may only include information which:
 - (a) has been held in confidence by its owner;

- (b) is of a type which is customarily held in confidence by its owner;
 - (c) has not been transmitted by the owner to other entities (including the receiving party) except on the basis that it be held in confidence;
 - (d) is not otherwise available to the receiving party from another source without restriction on its further dissemination; and
 - (e) is not already in the possession of the receiving party.
3. The term "other confidential or privileged information" means information, other than "proprietary information," which is protected from public disclosure under the laws and regulations of the country of the party providing the information and which has been transmitted and received in confidence.

C. Marking Procedures for Documentary Proprietary Information

A party receiving documentary proprietary information pursuant to this Arrangement will respect the privileged nature thereof, provided such proprietary information is clearly marked with the following (or substantially similar) restrictive legend:

This document contains proprietary information furnished in confidence under an Arrangement dated September 28, 2005 between the United States Nuclear Regulatory Commission and the National Nuclear Regulator of South Africa and shall not be disseminated outside these organizations, their consultants, contractors, and licensees, and concerned departments and agencies of the Government of the United States and the Government of South Africa without the prior approval of (name of the transmitting party). This notice shall be marked on any reproduction hereof, in whole or in part. These limitations shall automatically terminate when this information is disclosed by the owner without restriction.

This restrictive legend will be respected by the receiving party, and proprietary information bearing this legend will not be used for commercial purposes, made public, or disseminated in any manner unspecified by or contrary to the terms of this Arrangement without the consent of the transmitting party.

D. Dissemination of Documentary Proprietary Information

1. In general, proprietary information received under this Arrangement may be freely disseminated by the receiving party without prior consent to persons within or employed by the receiving party and to concerned government departments and government agencies in the country of the receiving party.
2. In addition, proprietary information may be disseminated without prior consent
 - (a) to contractors or consultants of the receiving party located within the geographical limits of that party's nation, for use only within the scope of work of their contracts with the receiving party in work relating to the subject matter of the proprietary information;
 - (b) to domestic organizations permitted or licensed by the receiving party to construct or operate nuclear production or utilization facilities or to use nuclear materials and radiation sources, provided that such proprietary information is used only within the terms of the permit or license; and
 - (c) to domestic contractors of organizations identified in subsection D.2.(b) of this Article, for use only in work within the scope of the permit or license granted to such organizations; provided that any dissemination of proprietary information under subsections D.2.(a), (b), and (c) of this Article, will be on an as-needed, case-by-case basis, will be pursuant to an agreement of confidentiality, and will be marked with a restrictive legend substantially similar to that appearing in subsection C. of this Article.
3. With the prior written consent of the party transmitting proprietary information under this Arrangement, the receiving party may disseminate such proprietary information more widely than otherwise permitted in subsections D.1. and D.2. of this Article. The parties will cooperate in developing procedures for requesting and obtaining approval for such

wider dissemination, and each party will grant such approval to the extent permitted by national policies, regulations, and laws.

E. Marking Procedures for Other Confidential or Privileged Information of a Documentary Nature

A party receiving under this Arrangement other confidential or privileged information will respect its confidential nature, provided such information is clearly marked so as to indicate its confidential or privileged nature and is accompanied by a statement indicating

1. that the information is protected from public disclosure by the government of the transmitting party; and
2. that the information is transmitted under the condition that it be maintained in confidence.

F. Dissemination of Other Confidential or Privileged Information of a Documentary Nature

Other confidential or privileged information may be disseminated in the same manner as that set forth in subsection D., Dissemination of Documentary Proprietary Information.

G. Non-Documentary Proprietary or Other Confidential or Privileged Information

Non-documentary proprietary or other confidential or privileged information provided in seminars and other meetings organized under this Arrangement, or information arising from the attachments of staff, use of facilities, or joint projects, will be treated by the parties according to the principles specified for documentary information in this Arrangement; provided, however, that the party communicating such proprietary or other confidential or privileged information has placed the recipient on notice as to the character of the information communicated.

H. Consultation

If, for any reason, one of the parties becomes aware that it will be, or may reasonably be expected to become, unable to meet the non-dissemination provisions of this Arrangement, it will immediately inform the other party. The parties will thereafter consult to define an appropriate course of action.

I. Other

Nothing contained in this Arrangement will preclude a party from using or disseminating information received without restriction by a party from sources outside of this Arrangement.

J. Dispute Resolution

Any dispute or question between the parties concerning the interpretation or application of this Arrangement will be settled by mutual agreement of the parties.

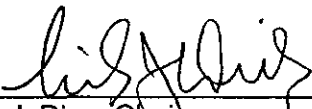
IV. FINAL PROVISIONS

- A. This Arrangement will enter into force upon signature and, subject to subsection B. of this Article, will remain in force for a period of five (5) years. It may be extended for a further period of time by written agreement of the parties.
- B. Either party may terminate this Arrangement by providing the other party written notice at least 180 days prior to its intended date of termination.

- C. All information protected by provisions of this Arrangement as proprietary or other confidential or privileged information will remain so protected for the duration of this Arrangement and after this Arrangement has expired or terminated, unless otherwise agreed by the parties in writing.

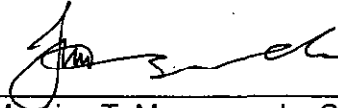
DONE at Vienna on this 28th day of September 2005.

FOR THE UNITED STATES
NUCLEAR REGULATORY COMMISSION:



Nils J. Diaz, Chairman

FOR THE NATIONAL NUCLEAR REGULATOR
OF SOUTH AFRICA:



Maurice T. Magugumela, CEO

ADDENDUM "A"

Areas in Which the U.S.N.R.C. Is Performing Confirmatory Nuclear Safety Research

1. Reactor Vessel and Piping Integrity
2. Aging of Reactor Components
3. Reactor Equipment Qualification
4. Thermal Hydraulic Code Applications and Maintenances
5. Plant and Systems Operation
6. Human Performance
7. Core Melt and Reactor Coolant System Failure
8. Reactor Containment Safety
9. Containment Structural Integrity
10. Seismic Safety
11. Probabilistic Risk Assessment
12. Severe Accident Analysis
13. Radiation Protection and Health Effects
14. Radionuclide Transport and Waste Management
15. Nuclear Fuel Analysis
16. Dry Cask Storage and Transport
17. Decommissioning
18. Advanced Reactor Designs
19. Fire Protection

ADDENDUM "B"

Areas in Which the N.N.R. Is Performing Confirmatory Nuclear Safety Research

1. DEVELOPMENT OF TECHNIQUES FOR IDENTIFYING PLANT MANAGEMENT REGIMES - RELIABILITY CENTERED MAINTENANCE
2. MATERIALS AGEING AND PLANT INTEGRITY
3. EMERGENCY PLANNING - LATE PHASE STUDIES
- DEVELOPMENT OF BASIS FOR EP IN LARGE PWRs
4. DEVELOPMENT OF PRA METHODOLOGY FOR REGULATORY APPLICATION
5. DEVELOPMENT OF ROOT CAUSE ANALYSIS TECHNIQUES
6. RISK-FOCUSED REGULATION AND SAFETY GOALS
7. ACCIDENT ANALYSIS AND SEVERE ACCIDENT MANAGEMENT
8. SPECIFIC SHIELDING AND MONTE CARLO ANALYSES
9. LICENSING OF NEW ADVANCED REACTORS, ESPECIALLY HTGRs
10. INDIVIDUAL DOSIMETRY FOR LARGE UNDERGROUND MINING POPULATIONS EXPOSED TO RADON PROGENY
11. TRANSPORT OF MATERIALS CONTAINING MARGINAL CONCENTRATIONS OF NATURALLY OCCURRING RADIONUCLIDES

INTELLECTUAL PROPERTY ADDENDUM

Pursuant to Article III. of this Arrangement:

The Parties shall ensure adequate and effective protection of intellectual property created or furnished under this Arrangement and relevant implementing arrangements. The Parties agree to notify one another in a timely fashion of any inventions or copyrighted works arising under this Arrangement and to seek protection for such intellectual property in a timely fashion. Rights to such intellectual property shall be allocated as provided in this Addendum.

I. SCOPE

1. This Addendum is applicable to all cooperative activities undertaken pursuant to this Arrangement, except as otherwise specifically agreed by the Parties or their designees.
2. For purposes of this Arrangement, "intellectual property" shall have the meaning found in Article 2 of the Convention Establishing the World Intellectual Property Organization, done at Stockholm, July 14, 1967; viz., " 'intellectual property' shall include the rights relating to:
 - literary, artistic and scientific works,
 - performances of artists, phonograms, and broadcasts,
 - inventions in all fields of human endeavor,
 - scientific discoveries,
 - industrial designs,
 - trademarks, service marks, and commercial names and designations,
 - protection against unfair competition,and all other rights resulting from intellectual activity in the industrial, scientific, literary, or artistic fields.
3. This Addendum addresses the allocation of rights, interests, and royalties between the Parties. Each Party shall ensure that the other Party can obtain rights to intellectual property allocated in accordance with the Addendum by obtaining those rights from its own participants through contracts or other legal means, if necessary. This Addendum does not otherwise alter or prejudice the allocation between a Party and its nationals, which shall be determined by that Party's laws and practices.
4. Disputes concerning intellectual property arising under this Arrangement should be resolved through discussions between the concerned participating institutions or, if necessary, the Parties or their designees. Upon mutual agreement of the Parties, a dispute shall be submitted to an arbitral tribunal for binding arbitration in accordance with the applicable rules of international law. Unless the parties or their designees

agree otherwise in writing, the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL) shall govern.

5. Termination or expiration of this Arrangement shall not affect rights or obligations under this Addendum.

II. ALLOCATION OF RIGHTS

1. Each Party shall be entitled to a non-exclusive, irrevocable, royalty-free license in all countries to translate, reproduce, and publicly distribute scientific and technical journal articles, reports, and books directly arising from cooperation under this Arrangement. All publicly distributed copies of copyrighted work prepared under this provision shall indicate the names of the authors of the work unless an author explicitly declines to be named.
2. Rights to all forms of intellectual property, other than those rights described in Section II.1., above, shall be allocated as follows:
 - a. Visiting researchers, for example, scientists visiting primarily in furtherance of their education, shall receive intellectual property rights under the policies of the host institution. In addition, each visiting researcher named as an inventor shall be entitled to share in a portion of any royalties earned by the host institution from the licensing of such intellectual property.
 - b.
 - (1) For intellectual property created during joint research, for example, when the Parties, participating institutions, or participating personnel have agreed in advance on the scope of work, each Party shall be entitled to obtain all rights and interests in its own country. The Party in whose country the invention was made shall have first option to acquire all rights and interests in third countries. If research is not designated as "joint research," rights to intellectual property arising from the research will be allocated in accordance with paragraph II.2.a., above. In addition, each person named as an inventor shall be entitled to share in a portion of any royalties earned by either institution from the licensing of the property.
 - (2) Notwithstanding paragraph II.2.b.(1), above, if a type of intellectual property is available under the laws of one Party but not the other Party, the Party whose laws provide for this type of protection shall be entitled to all rights and interests worldwide. Persons named as inventors of the property shall nonetheless be entitled to royalties as provided in paragraph II.2.b.(1), above.